IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of	:	
Hidekazu SUZUKI et al.	:	**Attn: BOX PCT**
Serial No. NEW	:	**Docket No. 2002-0384A**
Filed March 21, 2002	:	

SIGNAL TRANSMITTER AND SIGNAL RECEIVER
[Corresponding to PCT/JP01/06339 Filed July 23, 2001]

PRELIMINARY AMENDMENT

Assistant Commissioner for Patents,
Washington, DC 20231

Sir:

Prior to examination of the above-referenced U.S. patent application please amend the application as follows:

IN THE SPECIFICATION

Please amend the specification as follows:

Please replace the paragraph beginning at page 5, line 9, to line 22, with the following rewritten paragraph:

According to Claim 5 of the present invention, there is provided a signal receiver which is connected to a signal transmitter via a transmission line, comprising: a first receiving means for receiving a multiplexed signal in which a time-base-compressed first signal, a second signal, and a third signal are multiplexed, from the signal transmitter; a second receiving means for receiving a multiplexing control signal from the signal transmitter; a demultiplexing means for demultiplexing the multiplexed signal received by the first receiving means into the first and second signals, employing the multiplexing control signal received by the second receiving means; and a time-base

decompression means for time-base-decompressing the first signal obtained by the demultiplexing means.

Please replace the paragraph beginning at page 6, line 1, to line 14, with the following rewritten paragraph:

According to Claim 6 of the present invention, there is provided a signal receiver which is connected to a signal transmitter via a transmission line, comprising: a receiving means for receiving a multiplexed signal in which a time-base-compressed first signal, a second signal and a third signal are multiplexed, from the signal transmitter; a detection means for detecting the second signal from the multiplexed signal; a multiplexing control signal generating means for generating a multiplexing control signal on the basis of the second signal detected by the detection means; a demultiplexing means for demultiplexing the multiplexed signal into the first, second and third signals, employing the multiplexing control signal; and a time-base decompression means for time-base-decompressing the first signal obtained by the demultiplexing means.

Please replace the paragraph beginning at page 12, line 3, to line 23, with the following rewritten paragraph:

First, a relationship between the video signal and the audio signal before the time-base compression is schematically shown in figure 2. Since the video signal generally has a larger amount of data than the audio signal, several samples of the video signal temporally correspond to approximately one sample of the audio signal. In the signal transmission system according to the first embodiment, this audio signal is temporally compressed and multiplexed into an area where the video signal does not exist. More specifically, the time when the video signal does not exist is, for example, a horizontal synchronizing period or vertical synchronizing period of the video signal as shown in figure 3. In figure 3, a hatched section other than an effective screen corresponds to the synchronizing period. In figure 3, a SD screen of MP@ML (Main Profile Main Level) of MPEG 2 is taken as an example. The whole screen comprises 858 pixels (horizontal direction) x 525 lines (vertical direction). Of the whole screen, the effective screen comprises 720 pixels

(horizontal direction) x 480 lines (vertical direction), and a difference between the whole screen and the effective screen is a synchronizing period. The audio signal is multiplexed in this synchronizing period.

Please replace the paragraph beginning at page 15, line 23, to page 16, line 5, with the following rewritten paragraph:

Figure 11 is a diagram illustrating a state of time-base decompression by the time-base decompression part 104. Data during a period in which the demultiplexing control signal is LOW is taken as an audio signal, and the time-base-compressed audio signal is inputted at the sampling frequency fv only for the period in which the demultiplexing control signal is LOW and this signal is outputted at the sampling frequency fa, thereby obtaining the time-base-decompressed audio signal.

Please replace the paragraph beginning at page 19, line 6, to line 13, with the following rewritten paragraph:

Figure 14 is a diagram illustrating a state of time-base compression by the time-base compression part 201. In this figure, the relationship between the audio signal before the time-base compression and the audio signal after the time-base compression is almost the same as that in the first embodiment, while the audio signal after the time-base compression is delayed from the falling of the multiplexing control signal by L clocks. This L-clock period is in a no-signal state.

Please replace the paragraph beginning at page 21, line 9, to line 18, with the following rewritten paragraph:

Figure 17 illustrates a state of demultiplexing of the video signal and the audio signal in the second embodiment. In the video/audio multiplexed signal on the transmission line, the no-signal state continues for the L-clock period, and thereafter the audio signal samples exist for the M-clock period. As shown in figure 16, the selector is switched to select B in the period during

which the selector control signal is LOW and set at A in other cases, whereby the video signal and the audio signal can be separated and extracted from the video/audio multiplexed signal.

Please replace the paragraph beginning at page 22, line 8, to line 22, with the following rewritten paragraph:

As described above, the signal transmission system according to the second embodiment can realize the same effect as that of the signal transmission system according to the first embodiment, without transmitting the multiplexing control signal to the receiving end. That is, in this second embodiment, the no-signal state in the L-clock period is provided between the video signal and the audio signal in the period during which the video signal and the audio signal are multiplexed, and the sample points of the audio signal are kept constant as the M-clock period, and the receiving end detects the L-clock period of the no-signal state and thereafter takes the M-clock period as a timing of separating the audio signal. Accordingly, the audio signal and the video signal can be separated, without transmitting the multiplexing control signal to the receiving end.

Please replace the paragraph beginning at page 28, line 12, to line 25, with the following rewritten paragraph:

The characteristic of this fourth embodiment is the use of Y color-difference transmission for transmitting video signals. As the Y color-difference transmission, there is for example 4:2:0 transmission. The 4:2:0 transmission is one in which the color signal rate is a half of the luminance signal rate, as shown in figure 25. More specifically, the number of samples of the color signal is a half of the number of samples of the luminance signal. Thereby, the video signal can be transmitted on two channels through the transmission lines of the DVI standard. More specifically, the luminance signal is transmitted on channel 2, and the color signal Pb/Pr is transmitted on channel 1. The audio signal is superimposed in unused channel 0. This audio signal is the original audio signal which is not time-base-compressed.

IN THE CLAIMS

Please amend the claims as follows:

3. (Amended) The signal transmitter as defined in Claim 1, wherein

the first signal is an audio signal, the second signal is a horizontal synchronizing signal or a vertical synchronizing signal, and the third signal is a video signal.

5. (Amended) A signal receiver which is connected to a signal transmitter via a transmission line, comprising:

a first receiving means for receiving a multiplexed signal in which a time-base-compressed first signal, a second signal, and a third signal are multiplexed, from the signal transmitter;

a second receiving means for receiving a multiplexing control signal from the signal transmitter;

a demultiplexing means for demultiplexing the multiplexed signal received by the first receiving means into the first and second signals, employing the multiplexing control signal received by the second receiving means; and

a time-base decompression means for time-base-decompressing the first signal obtained by the demultiplexing means.

6. (Amended) A signal receiver which is connected to a signal transmitter via a transmission line, comprising:

a receiving means for receiving a multiplexed signal in which a time-base-compressed first signal, a second signal and a third signal are multiplexed, from the signal transmitter;

a detection means for detecting the second signal from the multiplexed signal;

a multiplexing control signal generating means for generating a multiplexing control signal on the basis of the second signal detected by the detection means;

a demultiplexing means for demultiplexing the multiplexed signal into the first, second and third signals, employing the multiplexing control signal; and

a time-base decompression means for time-base-decompressing the first signal obtained by the demultiplexing means.

7. (Amended) The signal receiver as defined in Claim 5, wherein

the first signal is an audio signal, the second signal is a horizontal synchronizing signal or a vertical synchronizing signal, and the third signal is a video signal.

Please add the following new claims:

9. The signal transmitter as defined in Claim 2, wherein

the first signal is an audio signal, the second signal is a horizontal synchronizing signal or a vertical synchronizing signal, and the third signal is a video signal.

10. The signal receiver as defined in Claim 6, wherein

the first signal is an audio signal, the second signal is a horizontal synchronizing signal or a vertical synchronizing signal, and the third signal is a video signal.

REMARKS

The present Preliminary Amendment is submitted to delete the multiple dependency of the claims, thereby placing such claims in condition for examination and reducing the required PTO filing fee.

Attached hereto is a marked-up version of the changes made to the specification, and claims by the current Preliminary Amendment. The attached page is captioned "**Version with Markings to Show Changes Made**".

Respectfully submitted,

Hidekazu SUZUKI et al.

By _____

Nils E. Pedersen
Registration No. 33,145
Attorney for Applicants

NEP/krl
Washington, D.C. 20006-1021
Telephone (202) 721-8200
Facsimile (202) 721-8250
March 21, 2002

THE COMMISSIONER IS AUTHORIZED TO CHARGE ANY DEFICIENCY IN THE FEES FOR THIS PAPER TO DEPOSIT ACCOUNT NO. 23-0975